AMENDMENTS TO THE CLAIMS

1. (Currently amended) An apparatus for controlling a data write operation in an optical storage system comprising:

an operational amplifier having a positive input end, a negative input end and an output end for outputting a write-control signal at the output end, the operational amplifier being operated in one of a short-term mode, a long-term mode and a closed-loop mode; ~~wherein~~

a first gain amplifier for amplifying a first input signal on its input end;

a second gain amplifier for amplifying a second input signal on its input end;

a first switch having a first end connected to an output end of the first gain amplifier;

a second switch connected to the output end of the operational amplifier and the negative input end of the operational amplifier;

a third switch having a first end coupled to the first switch and a second end connected to the negative input end of the operational amplifier;

a fourth switch for coupling the output signal of the second gain amplifier to the positive input end of the operational amplifier;

a fifth switch having a first end connected to the first switch and a second end connected to the fourth switch;

a sixth switch for coupling a DAC signal or a ground signal to the fourth switch and fifth switch; and

a seventh switch for coupling the DAC signal or the output of the operational amplifier to an input end of the second amplifier; wherein:

in the short-term mode, the operational amplifier is formed as a voltage follower for initializing the write-control signal;

in the long-term mode, the operational amplifier charges the write-control signal, the output end of the operational amplifier is coupled to the negative input end of the operation amplifier and the positive input end of the operational amplifier is coupled to a voltage level used

for recording data onto ~~a compact disk~~a storage medium for charging the write-control signal such that the positive input end and the negative input end of the operational amplifier are virtually grounded; and

in the closed-loop mode, the charged write-control signal is employed to record data on ~~a CD~~ the storage medium.

2. (Original) The apparatus for controlling a data write operation in an optical storage system as claimed in claim 1, wherein in the short-term mode, the positive input end of the operational amplifier is coupled to a reference voltage, and the negative input end thereof is coupled to the output end for forming a voltage follower so as to initialize the write-control signal.

3. (Cancelled)

4. (Cancelled)

5. (Currently amended) The apparatus for controlling a data write operation in an optical storage system as claimed in claim 2, wherein in the long-term mode, the operational amplifier charges the write-control signal to the voltage level used for recording data onto the ~~compact disk~~storage medium.

6. (Original) The apparatus for controlling a data write operation in an optical storage system as claimed in claim 1, wherein in the closed-loop mode, the operational amplifier inputs a feedback control signal from a read/write head of the apparatus and the feedback control signal is amplified and fed back to the negative input end of the operational amplifier.

7. (Previously Presented) The apparatus for controlling a data write operation in an optical storage system as claimed in claim 6, further comprising a sampling and holding circuit, in which the sampling and holding circuit receives the feedback control signal and the feedback control signal is amplified by the first gain amplifier, and the feedback control signal is amplified before being sent to the negative input end of the operational amplifier.

8. (Original) The apparatus for controlling a data write operation in an optical storage system as claimed in claim 1, wherein when the writing operation is completed, the short-term mode is actuated again so as to initialize the write-control signal again.

9. (Currently amended) A method for controlling a data write operation in an optical storage system including an operational amplifier having a positive input end, a negative input end and an output end for outputting a write-control signal at the output end, the operational amplifier being operated in one of a short-term mode, a long-term mode and a closed-loop mode, a first gain amplifier for amplifying a first input signal on its input end; a second gain amplifier for amplifying a second input signal on its input end; a first switch having a first end connected to an output end of the first gain amplifier; a second switch connected to the output end of the operational amplifier and the negative input end of the operational amplifier; a third switch having a first end coupled to the first switch and a second end connected to the negative input end of the operational amplifier; a fourth switch for coupling the output signal of the second gain amplifier to the positive input end of the operational amplifier; a fifth switch having a first end connected to the first switch and a second end connected to the fourth switch; a sixth switch for coupling a DAC signal or a ground signal to the fourth switch and fifth switch; and a seventh switch for coupling the DAC signal or the output of the operational amplifier to an input end of the second amplifier; the method comprising the steps of:

executing the short-term mode for initializing a write-control signal by using virtually grounding effect;

executing the long-term mode for charging the write-control signal by using virtually grounding effect, with which the output end of the operational amplifier is coupled to the negative input end of the operational amplifier and the positive input end of the operational amplifier is coupled to a voltage level used for recording data onto ~~a compact disk~~a storage medium for charging the write-control signal such that the positive input end and the negative input end of the operational amplifier are virtually grounded; and

executing the closed-loop mode for employing the charged write-control signal for recording data onto ~~a compact disk~~ the storage medium.

10. (Previously Presented) The method for controlling a data write operation in an optical storage system as claimed in claim 9, further comprising a step of initializing the write-control signal within the short-term mode.

11. (Previously Presented) The method for controlling a data write operation in an optical storage system as claimed in claim 9, further comprising a step of using a digital to analog control signal to control the charging operation of the write-control signal.

12. (Original) The method for controlling a data write operation in an optical storage system as claimed in claim 9, wherein in the closed-loop mode, the write-control signal is used for controlling the recording operation.

13. (Previously Presented) The method for controlling a data write operation in an optical storage system as claimed in claim 9, further comprising a step of re-executing the long-term mode after the recording operation for re-initializing the write-control signal.

14. (Previously Presented) The method for controlling a data write operation in an optical storage system as claimed in claim 9 further comprising a step of using a first time period control signal, a second time period control signal and a third time period control signal for controlling the operational amplifier to be operated in the short-term mode, the long-term mode and the closed-loop mode, in which the first and second time period control signals are switched between a first level and a second level.

15. (Currently amended) A read/write device used in an optical storage system comprising:

a read-control device for generating a read-control signal in response to a feedback control signal;

a write-control device having an operational amplifier for generating a write-control signal in response to the feedback control signal;

a first gain amplifier for amplifying a first input signal on its input end;

a second gain amplifier for amplifying a second input signal on its input end;

a first switch having a first end connected to an output end of the first gain amplifier; a second switch connected to the output end of the operational amplifier and the negative input end of the operational amplifier;

a third switch having a first end coupled to the first switch and a second end connected to the negative input end of the operational amplifier;

a fourth switch for coupling the output signal of the second gain amplifier to the positive input end of the operational amplifier;

a fifth switch having a first end connected to the first switch and a second end connected to the fourth switch;

a sixth switch for coupling a DAC signal or a ground signal to the fourth switch and fifth switch;

and a seventh switch for coupling the DAC signal or the output of the operational amplifier to an input end of the second amplifier; wherein:

the operational amplifier is formed as a voltage follower for initializing the write-control signal when being operated in a short-term mode;

the operational amplifier charges the write-control signal in advance when being operated in a long-term mode;

the output end of the operational amplifier is coupled to the negative input end of the operational amplifier and the positive input end of the operational amplifier inputs a voltage used for recording data onto ~~the compact disk~~a storage medium for charging the write-control signal to a voltage level for writing data to the ~~compact disk~~ storage medium such that the positive input end and the negative input end of the operational amplifier are virtually grounded;

the charged write-control signal is used to control an operation of recording data onto ~~a compact disk~~ the storage medium when the operational amplifier is operated in a closed-loop mode; and

a read/write head for generating a laser beam in response to the read-control signals, the write-control signals, a read-enable signal, and a write-enable signal, wherein the read/write head generates a feedback signal based on the laser beam for being fed back to the read-control device and the write-control device.

16. (Previously Presented) The read/write device as claimed in claim 15, wherein the operational amplifier has a positive input end, a negative input end and an output end, and the output end of the operational amplifier serves for outputting the write-control signal.

17. (Previously Presented) The read/write device as claimed in claim 16, wherein in the short-term mode, the positive input end of the operational amplifier is coupled to a reference voltage, and the negative input end thereof is coupled to the output end for forming a voltage follower so as to initialize the write-control signal.

18. (Cancelled)

19. (Cancelled)

20. (Previously Presented) The read/write device as claimed in claim 16, wherein in the closed-loop mode, the operational amplifier reads a feedback control signal from the read/write head of the write control device and the feedback control signal is amplified and fed back to the negative input end of the operational amplifier.

21. (Previously Presented) The read/write device as claimed in claim 20, further comprising: a sampling and holding circuit, wherein the sampling and holding circuit receives the feedback control signal and the first gain amplifier amplifies the feedback control signal and sends the amplified feedback control signal to the negative input end of the operational amplifier.

22. (Previously Presented) The read/write device as claimed in claim 15, wherein the long-term mode is executed again after the writing operation for re-initializing the write-control signal.

23. (New) The apparatus as claimed in claim 1, wherein the storage medium is a compact disk.

24. (New) The method as claimed in claim 9, wherein the storage medium is a compact disk.

25. (New) The read/write device as claimed in claim 15, wherein the storage medium is a compact disk.

26. (New) An apparatus for recording data on a storage medium, the apparatus comprising:

an operational amplifier configured to output a write-control signal;

a first gain amplifier configured to amplify a first input signal;

a second gain amplifier configured to amplify a second input signal;

a first switch connected to the first gain amplifier;

a second switch connected to the operational amplifier;

a third switch coupled to the first switch and a the operational amplifier;

a fourth switch configured to couple the output signal of the second gain amplifier the operational amplifier;

a fifth switch connected to the first switch and the fourth switch;

a sixth switch configured to couple a DAC signal or a ground signal to the fourth switch and the fifth switch;

a seventh switch configured to couple the signal or the wire-control signal to the second amplifier;

wherein, the operational amplifier operates in one of a short-term mode, a long-term mode, or a closed-loop mode, further wherein:

the operational amplifier initializes the write-control signal in the short-term mode;

the operational amplifier charges the write-control signal in the long-term mode, and

the charged write-control signal is utilized to record data on the storage medium in the closed-loop mode.

27. (New) The apparatus of claim 26, wherein, in the long-term mode, an output end of the operational amplifier is coupled to a negative input end of the operation amplifier and a positive input end of the operational amplifier is coupled to a voltage level used for recording data onto the storage medium.

28. (New) The apparatus of claim 27, wherein the positive input end and the negative input end of the operational amplifier are virtually grounded.

29. (New) The apparatus of claim 27, wherein in the short-term mode, the positive input end of the operational amplifier is coupled to a reference voltage, and the negative input end of the operational amplifier is coupled to an output end of the operational amplifier to initialize the write-control signal.

30. (New) The apparatus of claim 29, wherein the operational amplifier operates as a voltage follower in the short-term mode.

31. (New) The apparatus as claimed in claim 26, wherein the storage medium is a compact disk.